

PATENT  
TH1942

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/841,301  
Confirmation No.: 4730  
Filing Date: April 24, 2001  
Inventors: Wellington et al.  
Title: IN SITU THERMAL  
PROCESSING OF A  
HYDROCARBON  
CONTAINING FORMATION  
WITH A SELECTED  
HYDROGEN CONTENT

Examiner: J. J. Kreck  
Art Unit: 3673  
Atty. Dkt. No.: 5659-01800/EBM

## CERTIFICATE OF FACSIMILE FILING

DATE OF  
TRANSMISSION:

March 8, 2004

I hereby certify that this correspondence is being sent by  
facsimile to the United States Patent and Trademark Office, Fax  
No. (703) 872-9396 on the date indicated above.

*Del S. Christensen*  
Del S. Christensen

**TERMINAL DISCLAIMER TO OBVIATE DOUBLE PATENTING REJECTIONS OVER  
PATENT APPLICATIONS AND PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

1. Applicant is the owner of all rights in the captioned patent application. Applicant certifies that it is the assignee of the entire right, title and interest in the captioned patent application by virtue of an assignment from the inventors of the captioned patent application, the assignment recorded with the Patent and Trademark Office at Reel 012534, Frame 0388.
2. Applicant is the owner of all rights in U.S. Patent Application No. 09/840,937. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/840,937 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012236, Frame 0726.
3. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent

Application No. 09/840,937 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

4. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,170. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,170 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012236, Frame 0707.

5. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,170 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

6. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,195. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,195 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012244, Frame 0209.

7. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,195 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

8. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,283. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,283 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012608, Frame 0546.

9. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,283 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

10. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,285. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,285 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012231, Frame 0195.

11. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,285 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

12. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,286. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,286 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012233, Frame 0400.

13. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,285 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

14. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,288. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,288 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012269, Frame 0730.

15. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,288 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

16. Applicant is the owner of all rights in U.S. Patent No. 6,607,033. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent No. 6,607,033 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012264, Frame 0534.

17. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and U.S. Patent 6,607,033 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent and its or his successors or assigns.

18. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,294. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,294 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012597, Frame 0505.

19. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,294 are commonly owned. This agreement runs with any patent granted on

the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

20. Applicant is the owner of all rights in U.S. Patent No. 6,591,906. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent No. 6,591,906 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012215, Frame 0330.

21. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and U.S. Patent 6,591,906 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent and its or his successors or assigns.

22. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,300. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,300 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012996, Frame 0372.

23. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,300 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

24. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,303. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,303 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012976, Frame 0935.

25. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,303 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

26. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,306. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,306 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012233, Frame 0463.

27. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,306 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

28. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,308. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,308 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012609, Frame 0412.

29. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,308 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

30. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,429. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No.

09/841,429 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012236, Frame 0791.

31. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,429 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

32. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,431. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,431 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012204, Frame 0275.

33. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,431 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

34. Applicant is the owner of all rights in U.S. Patent No. 6,688,387. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent No. 6,688,387 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012505, Frame 0208.

35. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and U.S. Patent 6,688,387 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent and its or his successors or assigns.

36. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,434. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,434 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012600, Frame 0215.

37. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,434 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

38. Applicant is the owner of all rights in U.S. Patent No. 6,581,684. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent No. 6,581,684 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012229, Frame 0300.

39. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and U.S. Patent 6,581,684 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent and its or his successors or assigns.

40. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,439. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,439 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012656, Frame 0444.

41. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,439 are commonly owned. This agreement runs with any patent granted on



the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

42. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,441. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,441 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012617, Frame 0201.

43. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,441 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

44. Applicant is the owner of all rights in U.S. Patent No. 6,588,503. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent No. 6,588,503 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012267, Frame 0619.

45. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and U.S. Patent 6,588,503 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent and its or his successors or assigns.

46. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,444. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,444 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012600, Frame 0219.

47. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,444 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

48. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,445. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,445 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012231, Frame 0177.

49. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,445 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

50. Applicant is the owner of all rights in U.S. Patent No. 6,698,515. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent No. 6,698,515 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012236, Frame 0781.

51. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and U.S. Patent No. 6,698,515 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

52. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,488. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No.

09/841,488 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012237, Frame 0347.

53. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,488 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

54. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,490. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,490 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012237, Frame 0271.

55. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,490 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

56. Applicant is the owner of all rights in U.S. Patent No. 6,588,504. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent No. 6,588,504 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012233, Frame 0160.

57. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and U.S. Patent 6,588,504 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent and its or his successors or assigns.

58. Applicant is the owner of all rights in U.S. Patent No. 6,591,907. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent No. 6,591,907 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012233, Frame 0196.

59. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and U.S. Patent 6,591,907 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent and its or his successors or assigns.

60. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,502. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,502 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012231, Frame 0191.

61. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,502 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

62. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,638. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,638 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012204, Frame 0335.

63. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,638 are commonly owned. This agreement runs with any patent granted on

the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

64. Applicant is the owner of all rights in U.S. Patent Application No. 09/841,639. Applicant certifies that it is the assignee of the entire right, title and interest in U.S. Patent Application No. 09/841,639 by virtue of an assignment from the inventors of the patent application, the assignment recorded with the Patent and Trademark Office at Reel 012204, Frame 0317.

65. Applicant hereby agrees that any patent granted on the captioned patent application shall be enforceable only for and during such period that the patent and any patent granted on U.S. Patent Application No. 09/841,639 are commonly owned. This agreement runs with any patent granted on the captioned patent application and is binding upon the grantee of such patent, and its or his successors or assigns.

66. As sole owner in the captioned patent application, Applicant hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the captioned patent application which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. §154 to §156 and §173, as presently shortened by any terminal disclaimer, of any patent granted on U.S. Patent Application Nos. 09/840,937; 09/841,170; 09/841,195; 09/841,283; 09/841,285; 09/841,286; 09/841,288; 09/841,294; 09/841,300; 09/841,303; 09/841,306; 09/841,308; 09/841,429; 09/841,431; 09/841,434; 09/841,439; 09/841,441; 09/841,444; 09/841,445; 09/841,488; 09/841,490; 09/841,502; 09/841,638; or 09/841,639.

67. In making the above disclaimer, Applicant does not disclaim the terminal part of any patent granted on the captioned patent application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. §154 to §156 and §173 of a patent granted on U.S. Patent Application Nos. 09/840,937; 09/841,170; 09/841,195; 09/841,283; 09/841,285; 09/841,286; 09/841,288; 09/841,294; 09/841,300; 09/841,303; 09/841,306; 09/841,308; 09/841,429; 09/841,431; 09/841,434; 09/841,439; 09/841,441; 09/841,444; 09/841,445; 09/841,488; 09/841,490; 09/841,502; 09/841,638; or 09/841,639, as presently shortened by any

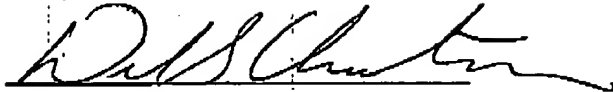
terminal disclaimer, in the event that the patent granted on U.S. Patent Application No. 09/840,937; 09/841,170; 09/841,195; 09/841,283; 09/841,285; 09/841,286; 09/841,288; 09/841,294; 09/841,300; 09/841,303; 09/841,306; 09/841,308; 09/841,429; 09/841,431; 09/841,434; 09/841,439; 09/841,441; 09/841,444; 09/841,445; 09/841,449; 09/841,488; 09/841,490; 09/841,502; 09/841,638; or 09/841,639 later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R. §1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

68. As sole owner in the captioned patent application, Applicant hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the captioned patent application which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. §154 to §156 and §173, as presently shortened by any terminal disclaimer, of U.S. Patent Nos. 6,607,033; 6,591,906; 6,688,387; 6,581,684; 6,588,503; 6,698,515; 6,588,504; or 6,591,907.

69. In making the above disclaimer, Applicant does not disclaim the terminal part of any patent granted on the captioned patent application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. §154 to §156 and §173 of U.S. Patent Nos. 6,607,033; 6,591,906; 6,688,387; 6,581,684; 6,588,503; 6,698,515; 6,588,504; or 6,591,907, as presently shortened by any terminal disclaimer, in the event that U.S. Patent Nos. 6,607,033; 6,591,906; 6,688,387; 6,581,684; 6,588,503; 6,698,515; 6,588,504; or 6,591,907 later: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R. §1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

70. A fee authorization for the required fee is attached.

By:



Del S. Christensen  
Senior Counsel for Shell Oil Company  
Reg. No. 33,482

SHELL OIL COMPANY  
P.O. BOX 2463  
HOUSTON, TX 77252-8463  
(713) 241-3997 (voice)  
(713) 241-6617 (facsimile)

Date: March 8, 2004